Y2K Information Guide

for

Human Services Providers

U. S. Department of Health and Human Services
200 Independence Avenue, S. W.
Washington, D. C. 20201

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Jointly sponsored by the Department of Health and Human Services Human Services Outreach Sector:

Under an interagency agreement and with Fiscal Year 1999 supplemental funding from the Congress, the Administration for Children and Families (ACF), the Administration on Aging (AoA), the Health Care Financing Administration (HCFA), the Health Resources and Services Administration (HRSA), and the Substance Abuse and Mental Health Services Administration (SAMHSA) have jointly sponsored the development of this "Y2K Information Guide for Human Services Providers". We hope it will help you in addressing any Y2K issues you may have.

In addition, ACF, AoA, HCFA, HRSA, and SAMHSA established and support the Y2K Help Desk and web site for Human Services Providers at:

http://y2k.acf.dhhs.gov/

The Help Desk toll-free telephone number is **(888) HHS-Y2K1**, or you can e-mail us at **y2kinquiry@acf.dhhs.gov.**

DEPARTMENT OF HEALTH & HUMAN SERVICES

Washington, D.C 20201

SUBJECT:

Change

TO:

other organizations representing the human services providers

To provide information pertinent to understanding and correcting

Human Services (DHHS) is concerned that there may be interruptions in the delivery of human services as a consequence of

memorandum and the materials in the subsequent sections is to provide you with information which will help you understand the

continued operations after January 1, 2000.

BACKGROUND: The “Y2K” or Year 2000 problem involves

the nation. Past industry-wide practice, in automated information systems, has
final two digits of the four-digit year. With the coming millennium change, these systems will be unable to correctly indicate years

first century dates. As a result, some computer systems, which affect virtually every aspect of life and of the economy, may fail or
wide-spread disruption
unless they are made Y2K compliant to properly process Y2K date

We have provided in Section 1 for your information a technically-

system must be able to correctly process all dates in the 20th and 21st centuries.

What makes this problem so difficult to

deadline for resolving it. It exists in automated systems which affect

every person and organization. These systems are highly interdependent. As a result, addressing the problem is a matter for all members and sectors of the nation's economy, and it must be dealt with before the coming millennium change.

Who Is Affected? All local human services providers and agencies, associations, and other organizations representing human services providers, which use large or small automated systems, are potentially affected, as well as those which obtain automated services from an external source.

Impact On Providers and Services Agencies: For human services agencies, successfully achieving Y2K compliance is critical to maintaining vital program services to the most needy and most vulnerable members of society. The Y2K problem may be manifested in automated computations used to determine eligibility for age-based programs, such as those funded by various agencies of the Human Services Outreach Sector.

Certainly, the extent to which any single human services provider or agency is affected by this problem will depend on the size, complexity, and physical environment of its information systems.

Computer systems may range in size from the operation of a single personal computer to support basic administrative activities to a complex network of computers of all sizes, utilizing both licensed and custom-built application software, which supports all aspects of operations. The latter will require development and implementation of an extensive and effective plan for addressing the Y2K problem. Smaller entities may only need to contact their computer services provider for assurance that their computer systems are Y2K compliant.

Regardless of the size and complexity of a particular human services provider or agency, it is important to note that a computer services or equipment provider cannot assure Y2K compliance of computer software developed or modified by your employees. As a consequence, you may need to take internal action to verify that these system components are Y2K compliant.

Physical Environment: Beyond your computer systems, you may need to consider the potential affects of the Y2K problem on the physical environment in which you operate. Components of your environment, such as telephones, elevators, energy services, etc. may include elements, such as embedded microchips, that are not Y2K compliant. For smaller human services providers, it may only

be necessary to contact the providers or managers of the physical environment to assure that the millennium change will not affect your operations. For larger human services agencies, which may own the facilities in which they operate, the efforts involved in assuring that the physical operating environment is Y2K compliant may be extensive.

A sample letter for obtaining Y2K compliance certification from hardware, software, and other vendors is provided in Section 5.

DISCUSSION:

Where You Should Be Now: By now, every organization that relies on computer systems to support its mission should be aware of the Y2K problem and be carrying out its plans for addressing the problem.

The size and complexity of a plan for resolving the Y2K problem will vary with the size of an organization. However, every plan should include the following elements:

- problem awareness or knowing that this is a problem which could affect the organization and therefore must be addressed;
- assessment or estimation of the size of the problem for the organization;
- renovation or making the changes needed to make the organization Y2K compliant;
- validation and testing of the changes to ensure they work in the organization's operating environment; and
- implementation of Y2K compliant procedures and systems.

There are many documents available which describe the key elements of a plan for dealing with this problem. These may be viewed via the Internet using one or more of the Internet addresses listed in Section 2 of this document or using the Y2K gateway provided by the DHHS Human Services Outreach Sector:

http://y2k.acf.dhhs.gov/

Independent Verification And Validation: For larger organizations, with extensive and complex systems, it may be advisable to employ the services of an outside organization, either a qualified contractor or other external organization, to review your systems for Y2K compliance. An independent evaluator can

provide an unbiased view of the status of an organization's systems and provide advice regarding corrective actions.

External Interfaces: Beyond assuring that your own systems function properly, you may need to determine the status of systems with which they interface. Again, this is most likely a consideration for larger, more complex services agencies. Human services agency systems may interface with other outside sources (including Federal systems) in order to exchange information for purposes such as issuing payments, initiating other program services, verifying client reported circumstances, etc. Also, human services providers are often dependent on State and local organizations as the source of original data upon which agency actions are based.

Where date information is part of the information exchange in these situations, the systems on each end of the interface must be Y2K compliant for the information interchange to function as intended. To accommodate this requirement, the organizations on both ends of the exchange should enter into a Y2K data interchange compliance agreement. This agreement documents the format for data information interchange and establishes a formal commitment for meeting necessary requirements and deadlines for the interfacing systems to be Y2K compliant.

Contingency Plans: Given the pervasive nature of, and immovable deadline for dealing with the Y2K problem, many experts doubt if most organizations can completely correct their Y2K problem before the coming millennium change. They point out that, in order to minimize the risk to vital services and operations, contingency plans should be put in place. This is in addition to making every effort to ensure that the organization's systems are Y2K compliant.

Consequently, it is important that any organization whose operations could be adversely affected by the coming millennium change have an effective contingency plan. The plan should deal with unanticipated circumstances where its systems may not be Y2K ready, or where the failure of the systems of others (e.g., the providers of physical environment components) could affect the human services agency's operations. As with other activities that may be undertaken to address the Y2K problem, the extent and level of complexity of contingency planning will vary with the size and complexity of the organization and the program operations to be maintained.

Contingency plans should address what will be done to assure the continuation of services delivery should systems fail due to internal

or external failure. These plans should include a mechanism to surface and expeditiously correct critical problems that arise, so that there is minimal adverse effect on services delivery. Guidance on contingency planning is available on the Internet at one or more of the addresses provided in Section 2 of this document and at the DHHS Y2K web site referenced above.

Federal Contact: While we do not have the capability to provide direct on-site assistance to aid your efforts to deal with the Y2K problem, we are providing an Internet e-mail address to which you may refer questions concerning Y2K and your organization:

y2kinquiry@acf.dhhs.gov

Include in messages to this address, your name, your organization name and phone number, and the nature of your Y2K related question to us. We will get back to you about your question soon after we receive your message.

You may also contact us at the following phone numbers with your additional questions:

(888) HHS-Y2K1 (toll-free)
(202) 401-7041

DHHS Y2K Activities: DHHS has undertaken comprehensive efforts to ensure that the systems that it employs to support human services providers - specifically grant payment and other systems which exchange information with grantees - are Y2K compliant. As a result, DHHS human services grantees can expect uninterrupted services through the coming millennium change.

ADDITIONAL INFORMATION: Human services providers and agencies may access additional information
concerning the Y2K requirement via the Internet. The Human Services Outreach Sector Internet address from which you can link to Y2K information is:

http://y2k.acf.dhhs.gov/

This address provides links to Federal, State, and Local Government web sites and other useful web-based resources. A limited number of web site addresses with Y2K information is also provided in Section 2 of this document. Other web sites with more

information on this issue may be located using an Internet search

www.acf.dhhs.gov/others/search.htm

The Internet search engines available at this address allow you to

to Y2K information available on the Internet.

All the information on the Internet on this subject may not be

recommend that you take the time to sort through it. You will find helpful information pertinent to your particular situation.

representing human services provider agencies, we have included in Section 3 for your consideration a brief article which you may want

document which your organization periodically distributes to members.

questions and answers concerning the Y2K problem, which we believe will be helpful.

Inquiries may be directed to the Internet e-mail address or phone numbers below:

(888) HHS-Y2K1 (toll-free)
401-7041

Mark Ragan
Director
Office of State Systems
Administration for Children and Families

Lead
Federal Year 2000
Human Services Outreach Sector

SECTION 1

Year 2000 Compliance Definition

Basic Definition:

Year 2000 compliant means information technology that accurately processes date/time data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the nineteenth, twentieth and twenty-first centuries, and the years 1999 and 2000 and leap year calculations. Furthermore, Year 2000 compliant information technology, when used in combination with other information technology, shall accurately process date/time data if the other information technology properly exchanges date/time data with it.

Scope of Definition:

All internal systems, external systems, and interfaces need to be Year 2000 compliant. This includes the following business components:

Applications	Including cross-business applications, all external interfaces.
Databases	Including data files and access to data files.
Computer Infrastructure	Including hardware, systems software, telecommunications, and date-dependent functions such as passwords, accounts, and software licenses.
Non-IT Systems	Including physical plant security, card entry systems, elevator systems, environmental control systems.
Other	Manual processes, end-user computing and forms, third party tools, and commercial off-the-shelf products.

Year 2000 Compliance High Level Requirements:

General Integrity	No value of current date will cause interruptions in normal operations.
Date Integrity	All manipulations of calendar-related data (dates, durations, days of week, birth dates, etc.) will produce desired results for all valid date values within the application domain.
Explicit Century	Date elements in interfaces and data storage permit specifying century to eliminate date ambiguity.
Implicit Century	For any date element represented without century, the correct century is unambiguous for all manipulations involving that element.
Interface Integrity	Year 2000 compliant systems, when used in combination with other Year 2000 compliant systems, shall accurately process date/time data exchanged between the two systems.

Specific Year 2000 Compliance Requirements:

General Integrity	• Access to archived data is not impaired by any century issues. • System correctly transitions from 31 December 1999 to 1 January 2000 and from last business-computing day of 1999 to the first business-computing day of 2000. • The Year 2000 is correctly treated as a leap year by the operating system and all applications (e.g. recognizes 2/29/00 as the leap year, and that 2000 has 366 days). Internal Quality Assurance routines are not impaired by and directly support century issues. The use of pseudo dates (such as 9999/99/99, 9999/12/31, and 99/09/09) within date fields does not impair correct functional processing. • When using windowing, ensure that the same window is used throughout the system.
Date Integrity	• All manipulations of time-related data will produce correct results for all valid date values. • All invalid input date values will trigger appropriate error processing. • Date-related processing logic, i.e., calculations, comparisons, sorts, and date validations will operate correctly when dealing with dates either at the century boundary or after the turn of the century. • Processing and/or system functionality related to high-risk dates (e.g. pivot year, special business cycle processing dates such as first Monday, first Friday, first end of month, first end of quarter, archive dates) will produce correct results.
Explicit Century	• Automated components use 4 digit years or contain the necessary interpretation logic to determine the correct year. • Manual components, interfaces, and processes use dates that are unambiguous. This can be achieved either through the title of the date (e.g. Today's Date:) or through the format of the date (e.g. CCYYMMDD). • Development of new applications, both in-process and planned, should adopt a standard of a 4 digit year field. • If data is expanded, date format shall be CCYYMMDD or CCYYDDD (Julian) for internal representation (e.g. computations, data storage) and MMDDCCYY for user interface. • All external correspondences shall use a 4 - digit year.
Implicit Century	• Internal application usage of dates and date fields must he clear and unambiguous in the context of the systems which use them. • Date displays on screens and reports are in a consistent format that can be interpreted without ambiguity. • Program logic will interpret the correct century based upon the entered year.
Interface Integrity	• The application will correctly interface with all date data that is imported or exported. • Dates exchanged between systems over any interface shall use a 4 - digit year representation. • All contractors, systems, and interfaces (both internal and external) should be able to process data containing two and four position year data formats with no interruptions to, or failures in processing. These entities should bridge data coming in, and produce data containing the standard date format (CCYYMMDD or CCYYDDD) as output.

Things to Consider: Variations Based on Technology and Domain-Specific Peculiarities

- Data exchange standards (external and internal) - Refer to the National Institute of Standards and Technology's Federal Information Processing Standard Publication 4-1, *Representation for Calendar Date and Ordinal Date for Information Interchange.*
- Impacts based on use of System date vs. Current date.
- Power down continuity.
- Archiving, scheduling and purging of information files, based on an expiration date or time limit.
- Industry standards: ANSI X3.30-1997, *Representation for Calendar Date and Ordinal Date for Information Interchange*; IEEE Std 2000.1-1998, *Year 2000 Terminology*; IEEE Std 2000.2-1998, *Information Technology Year 2000 Test Methods.*
- Contract requirements related to the acquisition of development resources to implement Y2K-compliance.
- Design and coding standards for consistent usage, representation and compliance.
- Overflow of base and offset representations of system date.
- Impact of potential increase in database size, e.g. costs and other factors related to acquiring additional disk space.
- Impact of potential performance degradation caused by new Y2K date computations and formatting requirements.
- Impact to resource requirements due to increase in manual processing for entry of the 2-digit century.

SECTION 2

Please note: The Department of Health and Human Services does not endorse or otherwise promote the services or products offered by any of the organizations or companies listed within this section. These addresses/information have been selected and are made available here only for the potentially useful resources that may have value to those concerned with the Year 2000 problem.

Selected Year 2000 Web Sites

FEDERAL	
General Accounting Office	The GAO web site provides reports and publications concerning the Year 2000 computing crisis, including guidelines for contingency planning, testing, and assessment: **http://www.gao.gov/y2kr.htm**
General Services Administration	The GSA Y2K web site provides the U.S. Federal Government's gateway to both Federal Government and international information directories: **http://www.itpolicy.gsa.gov/mks/yr2000/y2khome.htm**
National Institute of Standards and Technology	The NIST Year 2000 web site provides free software and tools for assessing the Y2K problem and an archive of related technical information: **http://www.nist.gov/y2k/**
Small Business Administration	The SBA Year 2000 web site provides videos, checklists, and other resources, tailored to the needs of small entities, as well as links to other related web sites: **http://www.sba.gov/y2k/**
Social Security Administration	The SSA Countdown 2000 web site explains how SSA has addressed the Y2K problem: **http://www.ssa.gov/year2000/index.htm**

OTHER	
Montgomery County, Maryland	The Montgomery County Year 2000 web site provides an action plan, contingency planning guidelines, and an extensive list of technical links, including both government and commercial resource sites: **http://www.co.mo.md.us/Year2000/**
National Association of Counties	The NACO provides a Y2K information technology clearinghouse for county governments: **http://www.naco.org/programs/infotech/y2k/sites.cfm**
National Association for State Information Resource Executives	The NASIRE provides a Y2K information technology clearinghouse for state governments, including information on Year 2000 liability laws and lists of Federal and State Y2K coordinators: **http://www.nasire.org/hotIssues/y2k/index.html**
Information Technology Association of America	The ITAA web site supports a clearinghouse of Y2K information resources: **http://www.itaa.org/year2000.htm**
Public Technology, Inc.	The PTI Y2K and You web site is sponsored by the National League of Cities, the National Association of Counties, and the International City/County Management Association to assist local governments. A *Tool Kit* of comprehensive resource materials may be ordered by e-mail from this web site: **http://www.pti.nw.dc.us/**

SECTION 3

Proposed News Article for Human Services Provider Grantee or Representative Association News Letters

GETTING READY FOR THE YEAR 2000

The year 2000 is rapidly approaching. Are you ready?

When the Year 2000 (Y2K) arrives, your systems may not know that the turn of the century has occurred. Most systems now only save the year by the last two digits, with "1998" coded as "98". On January 1, 2000, unless changes are made, those systems will recognize the date as January 1, 1900. To prevent calamities such as client history files with erroneous dates and non-delivery of client benefits and services, here are some recommendations to help you prepare for the next century.

First, don't delay. You haven't a moment to waste.

Second, get a handle on the scope of the problem within your organization. Check your automated systems and non-automated procedures, and the physical environment (phones, elevators, energy supply, etc.,) in which your organization functions. Analysis tools are available in the marketplace that can assist in your pursuit and testing for possible problems. One practical step that you can take is to contact the providers of your computer hardware, licensed software, and your physical environment.

Third, develop a corrective action plan for dealing with the problem. The complexity of the plan will vary depending on the size of your organization. However, every plan should include some form of the following elements: problem awareness or recognizing the fact that this could affect your entire organization and must be addressed; assessment or determining the size of the problem for the organization; renovation or making the changes needed to make the organization Y2K compliant; validation or testing the changes to ensure they work in the organization's operating environment; implementation or placing changed procedures and systems into operation; and compliance which is when changes function without error in the operating environment.

Fourth, explain to management at the highest level of the organization the scope and breadth of the problem and get their dedicated support in terms of resources and any necessary funding. The investment management makes now to alleviate Y2K problems will avoid future crises and more costly solutions.

Fifth, **gather together all the documentation relevant to the functions, computer systems and the physical environment in which you operate.** You'll need this information in order to determine what needs fixing for your organization to be Y2K compliant. If you have the funds, you may want to consider contracting out for Y2K services to help implement your corrective action plan.

Sixth, **create an inventory of your procedures, computer systems and your physical environment where a problem may exist.** Use this inventory to prioritize the problems you should be tackling immediately due to the critical nature of a particular system and those that can wait. Part of this effort will be to assess what external systems feed/exchange data to your system; it won't help to just fix your system if you're relying on non-compliant data received from outside of your organization.

Seventh, **every new procedure and computer system developed or acquired by the organization should comply with your Y2K date change standard.** If you don't have a standard, you need to create one that will handle year 2000 dates and be compatible with any outside organizations with which your organization exchanges information.

Eighth, **like any project where you don't have total control, be ready to deal with the inevitable surprises.** Develop contingency plans for keeping critical operations going should the procedures, computer systems and physical facilities which support your organization fail. Be ready to address unforeseen eventualities. Assume that the unlikely will occur and be ready to take it on. Experts say that dealing with the Y2K problem is a risk mitigation exercise. It is unlikely that every potential problem can be foreseen and corrected. No organization has it completely within its control to deal with the problem --it is everywhere. So contingency planning is of utmost importance.

Finally, **access as much information on the subject as you possibly can to help you deal with the problem.** Information on this subject is available from many sources; one of the best is the internet. An internet search on **Y2K** or **Year 2000** will bring up an abundant amount of reading material. It won't all be useful to you or your particular problem. Invest the time to sort through it; you will find helpful information pertinent to your particular situation.

Of all the recommendations that can be made for dealing with this problem, acting now and quickly may be the most important. Experts on this problem are saying that most data systems still require modification in order to properly deal with the century date change. If you haven't started yet, you're late. **You need to get started now!**

SECTION 4

Frequently Asked Questions About the Y2K Issue

Q1. ***What is the Y2K issue and how did it happen?***

The scope of the Y2K issue spans the entire Information Technology (IT) industry. The phenomenon exists because for decades it has been common practice to use two digits instead of four when storing or processing the date part of the year component. This carried over when writing computer programs, especially when it was done to minimize expensive memory space and data entry time. However common this practice, it causes computer software performing arithmetic operations, comparisons, or sorting of data fields to yield incorrect results when working with years beyond 1999. It will also cause failures of systems when using dates as triggers for process events to occur.

Q2. ***What organizations might this impact?***

It is a significant challenge across the IT industry -- for any company, social or government agency, institution or individual using computers to accomplish a task. Any system or program, including desktop software, could be affected if two digits are used for year representation.

Q3. ***Could a user just switch from using two digits to four?***

The process of making the change is fairly straightforward, but very time consuming. Users must first determine whether the data that represents "year" is stored as two digits and then find all the applications that use this data. If only two digits are used, the file format must be changed. Every application program that stores or references this data must also be changed. Finding all the programs that reference this data and coordinating the change are what takes time.

Q4. ***What happens if the Y2K issue is not corrected?***

Any computer calculation or process that involves a date -- such as a consumer credit card transaction, payroll, billing, mortgage calculation, time sorting routine, or a timed trigger event, such as the provision of public services, could yield incorrect answers or abort the process.

Q5. ***Why haven't we heard about this before now?***

Until recently, little publicity was focused on this issue. Recently, there has been a lot more publicity with front page headlines in newspapers and cover stories in weekly magazines. However, many companies, organizations and individuals are still not taking the Y2K issue seriously and need to start preparing for it now.

Q6. ***Why did this two-digit practice continue for so long?***

For decades, programmers have attempted to save storage space by using only two digits instead of four to represent a year when writing or executing an application. Even when memory became relatively inexpensive, the problem was never viewed as critical. Also, once established it was difficult to initiate a four-digit format because it would mean changing all existing software. Usually, spending money on a "software maintenance" issue is not given a very high priority.

Q7. ***Is this a hardware or system software problem or both?***

While this is primarily a software application problem, hardware clocks that generate date stamps in applications or are used for timing of application events will be problematic as well. The Y2K problem may be manifested on any type of computer, including mainframes, mini computers and personal computers.

Q8. ***What should systems managers and computer users do?***

System managers and users need to update applications and data fields that do not handle century markers or dates beyond 1999. They should develop and implement plans for doing so which include the following elements:

- **problem awareness** or knowing that this is a problem which could affect the organization and therefore must be addressed;
- **assessment** or estimation of the size of the problem for the organization;
- **renovation** or making the changes needed to make the organization Y2K compliant;
- **validation and testing** of the changes to ensure they work in the organization's operating environment; and
- **implementation** of Y2K compliant procedures and systems.

Q9. ***Why the rush -- why can't customers fix their problems and become Y2K compliant later?***

Many customers may run out of time and not be able to alter their application portfolio if they wait. Also, the Y2K issue is already beginning to surface for some customers and will occur more frequently as we approach the year 2000.

Q10. ***Are there estimates on how difficult, how long and how much it will cost a company or individual computer user to become Y2K Ready?***

Making applications and system software Y2K Ready is a type of redevelopment project, the scope of which depends upon the size and amount of software being used. Gartner Group consultants have estimated that a typical mid-size company could spend as much as $3-4 million in personnel and computer resources to make the necessary changes. They add that large companies or organizations could spend ten times that or more. It is estimated to be a $300-600 billion world-wide problem. It is also estimated that very few companies are ready now, only half will be ready by January 1, 2000, and that 20% of companies who do not address the Y2K issue will go out of business because of the cost, liability, or catastrophic results.

Q11. ***What New Standard for Date Should be Adopted?***

The U.S National Institute of Standards and Technology (NIST) strongly recommends the use of the 4-digit year represented as: century century/year year (CCYY).

The U.S. Social Security Administration (SSA) has adopted a general approach of doing an expanded record format to accommodate century information when exchanging data with outside organizations. For example, where a date previously contained “year year (YY)”, it will now contain “'century century year year (CCYY)”. They will be providing this format in records sent to outside organizations and they will need to receive year information in this format from external sources. They were fully compliant at the end of 1998.

Q12. ***Where can I get assistance?***

Y2K guidance materials and other resources are provided at the following web site:

http://y2k.acf.dhhs.gov/

If you do not have Internet access and have questions or wish to discuss issues related to human services providers and Y2K issues, you may contact the Y2K Help Desk by e-mail at **y2kinquiry@acf.dhhs.gov** or by telephone on this toll-free number (888) HHS-Y2K1.

Gauging Your Readiness

Ask these questions of your information management or information systems organization:

- Are you aware of the Year 2000 issue?
- Are you actively addressing the issue with established plans, milestones, and timelines?
- What state of compliance do you expect to reach by January 1, 2000?
- What contingency plans are in place?
- Are you actively engaged with your providers of vital data to assess and address their compliance?

SECTION 5

SAMPLE VENDOR CERTIFICATION LETTER

If you need to contact a computer resource provider regarding the Y2K compliance status of resources which it provides your organization, you may want to follow the format of this sample letter.

March 7, 1999

Dear _____ :

The so-called "Year 2000" (Y2K) issue has been well-documented and widely publicized. A key step in *(your organization name)*'s compliance effort is ensuring that all the computer systems and components supporting our operations, including hardware and software, operating systems, application programs, and network and communications hardware and software, be fully Y2K-compliant. Furthermore, we require that business solutions offered by our suppliers, maintenance and service contractors, and strategic partners be fully Y2K-compliant. Naturally, this requirement extends to your own suppliers and contractors as well, to the extent they provide you with goods or services necessary for you to be in Y2K-compliance with us.

We need information from you to evaluate our Year 2000 options. Enclosed is a definition of "Y2K-compliant" that states our expectations in greater detail. Please review the enclosed material and indicate your compliance status on the certificate. The certificate must be executed on your behalf by an authorized officer and returned to us for review by *(date).* After we have completed our evaluation, we will contact you concerning open points, clarifications, and any confirmation or testing process needed.

Nothing in this letter or the enclosures should be interpreted as expressing any opinion or conclusion by (*your organization name)* as to the scope of the necessary compliance effort or allocation of costs. This letter is not a request for you to start any Y2K-compliance work at our expense.

If you have any questions about the enclosures, please do not hesitate to contact *(contact name and phone number).* We look forward to working with you and sincerely appreciate your cooperation.

Thank you for your support in advance.

Sincerely,

SAMPLE VENDOR CERTIFICATION LETTER

DEFINITIONS

"Y2K-compliant" or "Y2K compliance" means that the software, hardware, machinery, equipment, program, application, routine, module, process, or tool will, on a timely basis and as corroborated in a manner approved by (your organization), satisfy the following criteria:

(a) General integrity. No value for current date will cause interruptions in normal operation. All date and period of time routines, functions, algorithms, and other features of the product/service and all constituent software, controller, central processing units, etc., and all modules thereof, accommodate accurately calendar and date data before, on, and after December 31, 1999. As a system date advances normally on a processor, each date rollover must not lead either the process or any software to erroneous processing.

(b) Date integrity. All manipulations of calendar-related data will produce desired results for all valid data values within the applications domain. These manipulations need to be reliable over the range of dates that an application is expected to handle. "Manipulations" include:

(i) arithmetic, such as calculations in accordance with the Gregorian calendar of dates, months, days of the week, weeks of the year, day of the year, leap years, duration and lapse of time (including number of days elapsed) from one date to another, including differences spanning different centuries or more than one century in duration;

(ii) logical, such as comparing and branching;

(iii) formatting, such as presentation and visual user interfaces; and

(iv) data management, such as the input, acceptance of date data, and the storage/recording, retrieval, sorting, indexing, and reference thereto.

(c) Explicit century. Date elements in interfaces and data storage permit specifying century to eliminate date ambiguity. This criterion essentially requires the capability to store explicit values for century. For example, a four-digit year is in all date data elements that are stored and passed accurately across each interface (including the user interface). A base-and-offset representation of dates that covers all centuries of interest also would satisfy this criterion.

(d) Implicit century. To the extent approved by (*your organization*) as a cost-risk trade-off, a date element can be represented without century indicator only if the correct century is unambiguous for all manipulations involving that element. If the century is not explicitly provided, its value must be correctly inferred with zero errors from the value of the date provided.

(e) Variations in user interface. The number of variations in date syntax in the visual user interface of any application is no more than four. The term "user interface" includes screens, windows, character-oriented dialogues, LED read-outs, paper reports, on-line reports, generated consumer mailings, user-accessible logs, etc.

(f) Common routines. All applications in the same source language share the same date routines for all date manipulations.
(g) Semantic extensions. All extensions to date semantics are eliminated. So-called "extended semantics" include techniques such as reserving specific values for a date field for special interpretation, e.g., interpreting "99" in a two-digit year field as an indefinite, non-expiring end-date. "Extended semantics" also include embedding a date value in a non-date data element.

"Error" means inaccurate, invalid or incorrect result, abnormal end (abend), failure, deviation, fault, or mistake, or any combination of the foregoing.

CERTIFICATION

Return To:
(Your organization's contact)
(Mailing address)

The undersigned, a duly authorized officer of [*Vendor*] empowered to do so, hereby certifies to the following with respect to supplied product and/or services provided with specific reference to the preceding Definitions :

YES NO Vendor acknowledges and agrees to the above definition of "Y2K-compliant"
Describe any difference in the definition used by Vendor:
_____
_____
_____

YES NO Vendor is fully Y2K-compliant as of the date hereof _____
If not fully Y2K-compliant as of the date hereof, date upon which Vendor expects to become fully Y2K-compliant _____

YES NO Vendor will not become fully Y2K-compliant.

If Vendor is or expects to become Y2K-compliant, the responses below refer to the current date or the date stated above on which Y2K compliance is expected to be achieved.

GENERAL INTEGRITY:

TRUE FALSE No value for current date will cause interruptions in normal operation.

YES NO All date and period of time routines, functions, algorithms, and other features of the product/service and all constituent software, controller, central processing units, etc., and all modules thereof, accommodate accurately calendar and date data before, on and after December 31, 1999.

YES NO As a system date advances normally on a host processor, each date roll-over must not lead either the host processor nor any software to erroneous processing.

DATE INTEGRITY:

YES NO Arithmetic manipulation

YES NO Logical manipulation

YES NO Formatting

YES NO Data management

SPECIFICATION OR YEAR OR CENTURY TO ELIMINATE DATE AMBIGUITY:

YES NO CCYY
YES NO YYYY

OTHER TECHNIQUE OR CONVENTION (DESCRIBE OR EXPLAIN):

YES NO Date element represented without century indicator**
YES NO Mechanism by which date value is correctly inferred with 100% accuracy from the value of provided**

_____
_____
_____

**Subject to review and approval by (*your organization)*

_____ Number of variations in date syntax in the visual user interface of any application
YES NO All applications in the same source language share the same date routines for all date manipulations
YES NO All extensions to date semantics are eliminated
Exceptions:

_____
_____
_____

_____ Range of dates that an application is expected to handle
_____ Release/version level/model number of products/service which is, or is expected to be, Y2K-compliant
_____ Date on which Y2K-compliant release/version/model was or will be available

If not fully Y2K-compliant, please describe any date-related processing problems being encountered in your business or the product/service (or which are foreseeable or expected to be encountered in the course of migrating to Y2K compliance) that are not covered above:

_____
_____
_____
_____

Date: _____
By: _____
Printed Name: _____
Title: _____

Return to:
(Your organization's contact)
(Mailing address)